

Notice of Allowability

Application No.

09/833,592

Examiner

Pedro J. Cuevas

Applicant(s)

MOON ET AL.

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to After Final amendment filed on March 3, 2003.
2. ☒ The allowed claim(s) is/are 3-5, 7-16 and 18.
3. ☒ The drawings filed on 13 April 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the top margin (not the back) of each sheet. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1 <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____. |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____. | 6 <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows: on page 6, line 5, please delete "FIGs. 5a, 5b, 5c and 5d are the frontal views respectively" and insert: --- FIG. 5a-d is the frontal views ---.

Allowable Subject Matter

2. Claims 3-5, 7-16 and 18 are allowed.
3. The following is an examiner's statement of reasons for allowance.

Kobayashi et al. disclose the construction of a quartz crystal oscillator, comprising:

- an oscillator housing with a pair of supporting protuberances formed therein;
- a conductive adhesive being spread on the supporting protuberances;
- a quartz blank having a supporting part for being bonded, via the conductive adhesive, on the supporting protuberances; and
- a cover for being secured upon the quartz blank;
- a pair of connecting parts extending from the supporting part; and
- a pair of bridge parts extending from the pair of the connecting parts respectively.

Onishi et al. teach the use of an insulating elastic resin elastic layer, placed between the cover and the supporting part of the quartz blank, for the purpose of providing a space retainer for forming a sealed space at the functional portion of the ship which can be sealed and have high moisture resistance, and the process of forming the space retainer can be carried out easily.

The prior art of record, taken alone or in combination, fails to teach the construction of a crystal oscillator and a quartz blank as recited on:

independent claims 3-5, wherein the insulating resin layer is formed between, extends along, or partially covers, an entire sides of the supporting part of the quartz blank and side walls of the housing;

independent claims 7 and 11, wherein an outer longitudinal edge of each of the connecting parts consists of a parallel section which is straightly extended from an outer longitudinal edge of the supporting part and a slant section slanted with respect to an outer longitudinal edge of the bridge part; and

independent claim 12, wherein an insulating resin layer placed between side walls of the housing and the supporting part of the quartz blank, and is not present between the cover and a top surface of the supporting part of the quartz blank.

Dependent claims 8-10, 13-16, and 18 are considered allowable by their respective dependence on allowed independent claims 7, 11, and 12.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (703) 308-4904. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor R. Ramírez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-1341 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Pedro J. Cuevas
April 17, 2003



KARL TAMAI
PRIMARY EXAMINER

Docket No.: 2336-063



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

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TC 2800 MAIL ROOM

Re Application of

Yong-Ho MOON et al.

Serial No. 09/833,592

Filed: April 13, 2001

For: CRYSTAL OSCILLATOR WITH IMPROVED SHOCK RESISTANCE

: EXPEDITED PROCECURE
: Response under 37 CFR 1.116

: Group Art Unit: 2834

: Examiner: P. Cuevas

AMENDMENT UNDER RULE 116

COMMISSIONER FOR PATENTS
Washington, D. C. 20231

Sir:

This paper is submitted in reply to the Office Action mailed December 12, 2002, which was made Final. Reconsideration and allowance of the subject application in view of the following amendments **as to form** is respectfully requested.

IN THE CLAIMS:

Please cancel claims 1, 2 and 17 without prejudice or disclaimer.

Please amend claims 3-5 as follows:

3. (Twice Amended) A crystal oscillator with improved shock resistance, comprising:
- an oscillator housing with a pair of supporting protuberances formed therein;
 - a conductive adhesive being spread on the supporting protuberances;
 - a quartz blank having a supporting part bonded, via the conductive adhesive, on the supporting protuberances;
 - a cover secured to the housing and positioned upon the quartz blank; and

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AF amendment
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an insulating resin layer placed between the cover and the supporting part of the quartz blank, for elastically pressing down the conductive adhesive;

wherein the insulating resin layer disposed upon the supporting part of the quartz blank is also formed between sides of the supporting part of the quartz blank and side walls of the housing.

4. (Twice Amended) A crystal oscillator with improved shock resistance, comprising:

an oscillator housing with a pair of supporting protuberances formed therein;

a conductive adhesive being spread on the supporting protuberances;

a quartz blank having a supporting part bonded, via the conductive adhesive, on the supporting protuberances;

a cover secured to the housing and positioned upon the quartz blank; and

an insulating resin layer placed between the cover and the supporting part of the quartz blank, for elastically pressing down the conductive adhesive;

wherein the insulating resin layer disposed upon the supporting part of the quartz blank extends along an entire top surface and entire side faces of the supporting part of the quartz blank.

5. (Twice Amended) A crystal oscillator with improved shock resistance, comprising:

an oscillator housing with a pair of supporting protuberances formed therein;

a conductive adhesive being spread on the supporting protuberances;

a quartz blank having a supporting part bonded, via the conductive adhesive, on the supporting protuberances;

a cover secured to the housing and positioned upon the quartz blank; and

an insulating resin layer placed between the cover and the supporting part of the quartz blank, for elastically pressing down the conductive adhesive;

wherein the insulating resin layer disposed upon the supporting part of the quartz blank partially covers a top surface and each of side faces of the supporting part of the quartz blank.